

gi12408272 Y35897

SEQ ID NO: 4
SEQ ID NO: 17
gi12408272
Y35897

MGSWVQLITSVGVQQNHPGWTVAGQFQEKRRFTTEEVIYFQKKVSPVHLK
MGSWVQLITSVGVQQNHPGWTVAGQFQEKRRFTTEEVIYFQKKVSPVHLK
MGSWVQLITSVGVQQNHPGWTVAGQFQEKRRFTTEEVIYFQKKVSPVHLK

SEQ ID NO: 4
SEQ ID NO: 17
gi12408272
Y35897

ILLTSDEAWKRFVRVAELPREEADALYEALKNLTPYVAIEDKMQQKEQQ
ILLTSDEAWKRFVRVAELPREEADALYEALKNLTPYVAIEDKMQQKEQQ
ILLTSDEAWKRFVRVAELPREEADALYEALKNLTPYVAIEDKMQQKEQQ

-----MQQKEQQ

SEQ ID NO: 4
SEQ ID NO: 17
gi12408272
Y35897

FREWFLKEFPQIRWKIQESIERLRVIANEIEKVRHGCVIANVVGSTGIL
FREWFLKEFPQIRWKIQESIERLRVIANEIEKVRHGCVIANVVGSTGIL
FREWFLKEFPQIRWKIQESIERLRVIANEIEKVRHGCVIANVVGSTGIL

FREWFLKEFPQIRWKIQESIERLRVIANEIEKVRHGCVIANVVGSTGIL

SEQ ID NO: 4
SEQ ID NO: 17
gi12408272
Y35897

SVIGVMLAPFTAGLSLSITAAGVGLGIASATAGIASSIVENTYTRSAELT
SVIGVMLAPFTAGLSLSITAAGVGLGIASATAGIASSIVENTYTRSAELT
SVIGVMLAPFTAGLSLSITAAGVGLGIASATAGIASSIVENTYTRSAELT

SVIGVMLAPFTAGLSLSITAAGVGLGIASATAGIASSIVENTYTRSAELT

SEQ ID NO: 4
SEQ ID NO: 17
gi12408272
Y35897

ASRLTATSTDQLEALRDILHDI TPNVLSFALDFDEATKMIANDVHTLRRS
ASRLTATSTDQLEALRDILDI TPNVLSFALDFDEATKMIANDVHTLRRS
ASRLTATSTDQLEALRDILDI TPNVLSFALDFDEATKMIANDVHTLRRS

ASRLTATSTDQLEALRDILHDI TPNVLSFALDFDEATKMIANDVHTLRRS

*****;

FIG. 1A

Sequence

SEQ ID NO: 4
SEQ ID NO: 17
gi12408272
Y35897
KATVGRPLIAWRYVPINVVETLRTRGAPTRIVRKVARNLGKATSGVLVVL
KATVGRPLIAWRYVPINVVETLRTRGAPTRIVRKVARNLGKATSGVLVVL
KATVGRPLIAWRYVPINVVETLRTRGAPTRIVRKVARNLGKATSGVLVVL
KATVGRPLIAWRYVPINVVETLRTRGAPTRIVRKVARNLGKATSGVLVVL

SEQ ID NO: 4
SEQ ID NO: 17
gi12408272
Y35897
DVVNLVQDSLDLHKGAKSESAE-----
DVVNLVQDSLDLHKGAKSESAESLRQWAQEELENLTHIHQSLKAG
DVVNLVQDSLDLHKGAKSESAESLRQWAQEELENLTHIHQSLKAG
DVVNLVQDSLDLHKGAKSESAELLRQWAQEELENLTHIHQSLKAG

FIG. 1B

TABLE 1

gi1304189		RYEPSENGRLLRVLSKDGFLSYLCSADGNIFNPDCPLIYQDMTQPLSHYY
gi571466		RYEPSENGRLLRVLSKDGFLSYLCSADGNIFNPDCPLIYQDMTQPLSHYY
SEQ ID NO: 8		RYEPSDSGKLRHVPSMDGFLSYLCSKDGDI FNPACPLIYQDMTQPLNHYY
SEQ ID NO: 19		RYEPSDSGKLRHVLSMDGFLSYLCSKDGDI FNPACPLIYQDMTQPLNHYY
		*****:.*:* * ***** **:* ***** *****.*.*:
gi1304189		INSSHNTYLLGDQFCGQSSVEGYIRALKRGCRCVEVDTWDPDGPVYH
gi571466		INSSHNTYLLGDQFCGQSSVEGYIRALKRGCRCVEVDTWDPDGPVYH
SEQ ID NO: 8		ICSSHNTYLVGDQLCGQSSVEGYIRALKRGCRCVEVDVWDGSPGEPVYH
SEQ ID NO: 19		ICSSHNTYLVGDQLCGQSSVEGYIRCSG-G--REGVQLMRGTM-----
		* *****:***:*****.* * * * *
gi1304189		GRTLTSRILFKDVLATLAQYAFQSSDYPLILSLDNHCTWEQQKTMLAHHL
gi571466		GRTLTSRILFKDVLATLAQYAFQSSDYPLILSLDNHCTWEQQK-TMAHHL
SEQ ID NO: 8		GHTLTSRILFKDVVATVAQYAFQTSYDYPVILSLETHCSWEQQQ-TMARHL
SEQ ID NO: 19		-----
gi1304189		IAILGEQLLSTTLEEQ-IDIMPSPE-LRGKILVKGKKLRTIEVVESDKEE
gi571466		IAILGEQLLSTTLEEQLIDIMPSPEQLRGKILVKGKKLRTIEVVESDKEE
SEQ ID NO: 8		TEILGEQLLSTTLDGVLPTQLPSPEELRRKILVKGKKLTLLEEDLEYEEEE
SEQ ID NO: 19		-----
gi1304189		EELKDEGSDLDPASAEALDMQSQPESQEQASGNKSKNKKKFLQSSSTIL
gi571466		EELKDEGSDLDPASAEALDMQSQPESQEQASGNKSKNKKKFLQSSSTIL
SEQ ID NO: 8		AEPELEESE---LALESQFETEPEPEQEQNLQNKDKKKK-----SKPIL
SEQ ID NO: 19		-----

FIG. 2B

CPDLSALVYLRTAPFCSTHSHENYHIYDISSFSESKAKNLIREAGNEF

gi1304189
gi571466
SEQ ID NO: 8
SEQ ID NO: 19

CPDLSALVYLRTAPFCSTHSHENYHIYDISSFSESKAKNLIREAGNEF
CPDLSALVYLRTAPFCSTHSHENYHIYDISSFSESKAKNLIREAGNEF
CPALSSLVIYLKSVSFRSFTSHSKEHYHFYEISSFSETKAKRLIKEAGNEF

gi1304189
gi571466
SEQ ID NO: 8
SEQ ID NO: 19

VQHNARQLCRVYPGSLRTDSSNYPQEHWNVGCQVMAMNQTAGSAMDIC
VQHNARQLCRVYPGSLRTDSSNYPQEHWNVGCQVMAMNQTAGSAMDIC
VQHNTRQLSRVYPGSLRTGSSIYNPQGY-----

gi1304189
gi571466
SEQ ID NO: 8
SEQ ID NO: 19

DGLFRQNGSGYVLKPEFLRDTQSSFNPMKPVSLYKAQILVVQVISGQRL
DGLFRQNGSGYVLKPEFLRDTQSSFNPMKPVSLYKAQILVVQVISGQRL

gi1304189
gi571466
SEQ ID NO: 8
SEQ ID NO: 19

PKVDKTKETTVDPLVRVELYGVPEDTKQQETSYVENNGINPYWGETFYF
PKVDKTKETTVDPLVRVELYGVPEDTKQQETSYVENNGINPYWGETFYF

gi1304189
gi571466
SEQ ID NO: 8
SEQ ID NO: 19

QIQVPELAMLRVVKDYSRTSRNNFIGQYTLPWTCMKHGYRHVSLSKDG
QIQVPELAMLRVVKDYSRTSRNNFIGQYTLPWTCMKHGYRHVSLSKDG

FIG. 2C

gi1304189
gi571466
SEQ ID NO: 8
SEQ ID NO: 19

TSLHPASHFVYTCMQEDLLMDEP

TSLHPASHFVYTCMQEDLLMDEP

FIG. 2D

[illegible]

FIG. 3B.

FIG. 4A

SEQ ID NO: 27	---MQAKYSSTRDMLDDDDGDTTMSLHSQASATTRHPEPRR-----
Y05317	---MQAKYSSTRDMLDDDDGDTTMSLHSQASATTRHPEPRRTEHRAPSSSTWRPVALTLLTL
gi7110216	---MQAKYSSTRDMLDDDDGDTTMSLHSQASATTRHPEPRRTEHRAPSSSTWRPVALTLLTL
SEQ ID NO: 23	---MQAKYSSTRDMLDDDDGDTTMSLHSQASATTRHPEPRRTEHRAPSSSTWRPVALTLLTL
SEQ ID NO: 25	---MQAKYSSTRDMLDDDDGDTTMSLHSQASATTRHPEPRRTEHRAPSSSTWRPVALTLLTL
SEQ ID NO: 11	-----MSLHSQASATTRHPEPRRTEHRAPSSSTWRPVALTLLTL

SEQ ID NO: 27	-----TVFQYYQLSNTGQDTISQMEERLGNTSQELQSLQVQNIKLAGSLQHV
Y05317	CLVLLIGLAALGLLFFQYYQLSNTGQDTISQMEERLGNTSQELQSLQVQNIKLAGSLQHV
gi7110216	CLVLLIGLAAGWLLFFQYYQLSNTGQDTISQMEERLGNTSQELQSLQVQNIKLAGSLQHV
SEQ ID NO: 23	CLVLLIGLAALGLLFFQYYQLSNTGQDTISQMEERLGNTSQELQSLQVQNIKLAGSLQHV
SEQ ID NO: 25	CLVLLIGLAALGLLFFQYYQLSNTGQDTISQMEERLGNTSQELQSLQVQNIKLAGSLQHV
SEQ ID NO: 11	CLVLLIGLAALGLLFFQYYQLSNTGQDTISQMEERLGNTSQELQSLQVQNIKLAGSLQHV
	. *****
SEQ ID NO: 27	AEKLCRELYNKAG-----AHCSPCTEQWKWHGDNQCYQ
Y05317	AEKLCRELYNKAG-----AHCSPCTEQWKWHGDNQCYQ
gi7110216	AEKLCRELYNKAG-----AHCSPCTEQWKWHGDNQCYQ
SEQ ID NO: 23	AEKLCRELYNKAG-----AHCSPCTEQWKWHGDNQCYQ
SEQ ID NO: 25	AEKLCRELYNKAGGYTRNMVPPASASSESLRQLPHMGESAAAHRCSPCTEQWKWHGDNQCYQ
SEQ ID NO: 11	AEKLCRELYNKAGGYTRNMVPPASASSESLRQLPHMGESAAAHRCSPCTEQWKWHGDNQCYQ

SEQ ID NO: 27	FYKDSKSWEDCKYFCLSENSTMLKINKQEDLEFAASQSYSEFFYSYWTGLLRPDPSGKAWL
Y05317	FYKDSKSWEDCKYFCLSENSTMLKINKQEDLEFAASQSYSEFFYSYWTGLLRPDPSGKAWL
gi7110216	FYKDSKSWEDCKYFCLSENSTMLKINKQEDLEFAASQSYSEFFYSYWTGLLRPDPSGKAWL
SEQ ID NO: 23	FYKDSKSWEDCKYFCLSENSTMLKINKQEDLEFAASQSYSEFFYSYWTGLLRPDPSGKAWL
SEQ ID NO: 25	FYKDSKSWEDCKYFCLSENSTMLKINKQEDLEFAASQSYSEFFYSYWTGLLRPDPSGKAWL
SEQ ID NO: 11	FYKDSKSWEDCKYFCLSENSTMLKINKQEDLEFAASQSYSEFFYSYWTGLLRPDPSGKAWL

FIG. 4A

Figure 4B

SEQ ID NO: 27	WMDGTPFTSELFHIIIDVTSRSDCVAIILNGMIFSKDCKELKRCVCERRAGMVKPESLH
Y05317	WMDGTPFTSELFHIIIDVTSRSDCVAIILNGMIFSKDCKELKRCVCERRAGMVKPESLH
gi7110216	WMDGTPFTSELFHIIIDVTSRSDCVAIILNGMIFSKDCKELKRCVCERRAGMVKPESLH
SEQ ID NO: 23	WMDGTPFTSELFHIIIDVTSRSDCVAIILNGMIFSKDCKELKRCVCERRAGMVKPESLH
SEQ ID NO: 25	WMDGTPFTSELFHIIIDVTSRSDCVAIILNGMIFSKDCKELKRCVCERRAGMVKPESLH
SEQ ID NO: 11	WMDGTPFTSELFHIIIDVTSRSDCVAIILNGMIFSKDCKELKRCVCERRAGMVKPESLH

SEQ ID NO: 27	VPPETLGECD-----
Y05317	VPPETLGECD-----
gi7110216	VPPETLGECD-----
SEQ ID NO: 23	VPPETLGECD-----
SEQ ID NO: 25	VPPETLGECDMMMMHHHH
SEQ ID NO: 11	VPPETLGECD-----

FIG. 4B

SEQ ID NO: 15	-----
SEQ ID NO: 33	FRCKNRHCIQARWKCDGDDDDCLDGSDEDSVNCFNHSCPDQDFKCQNNRCIPKRWLCDGAN
gi7861733	FRCKNRHCIQARWKCDGDDDDCLDGSDEDSVNCFNHSCPDQDFKCQNNRCIPKRWLCDGAN
R47861	FACANSRCIQERWKCDGDNDCLDNDSDEAPALCHQHTCPSDRFKCENNRCIPNRWLCDGDN
SEQ ID NO: 15	-----
SEQ ID NO: 33	DCGSNEDESNOTCTARTCQVDQFSCGNRCIPRAWLCDREDDCGDQTDEMASCEFTCEP
gi7861733	DCGSNEDESNOTCTARTCQVDQFSCGNRCIPRAWLCDREDDCGDQTDEMASCEFTCEP
R47861	DCGNSEDESATCSARTCPPNQFSCASGRICIPISWTCDLDDDCGDRDESASCAYPCTCFP
SEQ ID NO: 15	-----
SEQ ID NO: 33	LTQFVCKSGRCISSKWHCDSDDDCGDGSDEVCVHSCFDNQFRCSSGRCIPGHWACDGDN
gi7861733	LTQFVCKSGRCISSKWHCDSDDDCGDGSDEVCVHSCFDNQFRCSSGRCIPGHWACDGDN
R47861	LTQFTCNNGRCININWRCDNDNDNCGDNSDEAGCSHSCSSTQFKCNSGRCIPEHWTCDGDN
SEQ ID NO: 15	-----
SEQ ID NO: 33	DCGDFSDEAQINCTKEEIHSPAGCNGNEFQCHPDGNCVDPDLWRCDEKDCEDGSDEKGCN
gi7861733	DCGDFSDEAQINCTKEEIHSPAGCNGNEFQCHPDGNCVDPDLWRCDEKDCEDGSDEKGCN
R47861	DCGDYSDETHANCTNQATRPPGGCHTDEFQCRDLGLCIPLRWRCDGDTDCMDSSDEKSCE
SEQ ID NO: 15	-----
SEQ ID NO: 33	GTIRLCDHKTKFSCWSTGRCINKAWVCDGIDCEDQSDDEDDCDSFLCGPPKHPCANDTSV
gi7861733	GTIRLCDHKTKFSCWSTGRCINKAWVCDGIDCEDQSDDEDDCDSFLCGPPKHPCANDTSV
R47861	GVTHVCDPSVKFGCKDSARCISKAWVCDGDNDCEDNDSDENCESLACRPPSHPCANNNTSV

FIG. 5D

Figure 5E

SEQ ID NO: 15	-----
SEQ ID NO: 33	CLQPEKLCNGKKDCPDGSDGYLCDECSLNNGGCSNHCSVVPGRGIVCSCPEGLQLNKDN
gi7861733	CLQPEKLCNGKKDCPDGSDGYLCDECSLNNGGCSNHCSVVPGRGIVCSCPEGLQLNKDN
R47861	CLPPDKLCDGNDDCGDGSDEGELCDQCSSLNNGGCSNHCSVAPGEGIVCSCPLGMELGPDN
SEQ ID NO: 15	-----
SEQ ID NO: 33	KTCEIVDYCSNHLKCSQVCEQHKTIVKCSCEYEGWKLDVDGESCTSDVPFEAFIIFSIRHE
gi7861733	KTCEIVDYCSNHLKCSQVCEQHKTIVKCSCEYEGWKLDVDGESCTSDVPFEAFIIFSIRHE
R47861	HTCQIQSYCAKHLKCSQKCDQNKFSVKCSCEYEGWVLEPDGESCRSLDPFKPFIIFSIRHE
SEQ ID NO: 15	-----
SEQ ID NO: 33	IRRIDLHKRDYSLLPGLRNTIALDPHFNQSLLYWTDVVEDRIYRGKLSESGGVSATIEVV
gi7861733	IRRIDLHKRDYSLLPGLRNTIALDPHFNQSLLYWTDVVEDRIYRGKLSESGGVSATIEVV
R47861	IRRIDLHKGDYSVLVPLGLRNTIALDPHLSQSAALYWTDVVEDKIYRGKLDDNGALTSFEVV
SEQ ID NO: 15	-----
SEQ ID NO: 33	VEHGLATPEGLTVDWIAGNIYWIDSNLDQIEVAKLDGSLRTTLIAGAMEHPRAIALDPRY
gi7861733	VEHGLATPEGLTVDWIAGNIYWIDSNLDQIEVAKLDGSLRTTLIAGAMEHPRAIALDPRY
R47861	IQYGLATPEGLAVDWIAGNIYWVESNLDQIEVAKLDGTLRTLLAGDIEHPRAIALDPRD
SEQ ID NO: 15	-----
SEQ ID NO: 33	GILFWTDWDANFPRIEASMSGAGRKTIIYKDMKTGAWPNGLTVDHFKEKRIVWTDARSDAI
gi7861733	GILFWTDWDANFPRIEASMSGAGRKTIIYKDMKTGAWPNGLTVDHFKEKRIVWTDARSDAI
R47861	GILFWTDWDASLPRIEAAASMSGAGRRTVHRETGSGGWPNGLTVDYLEKRIILWIDARSDAI

FIG. 5E

SEQ ID NO: 15	-----
SEQ ID NO: 33	YSALYDGTNMIETIRGHEYL SHPFAVSLYGSEVYWTDRNTLSKANKWTGQNVSVIQKT
gi7861733	YSALYDGTNMIETIRGHEYL SHPFAVSLYGSEVYWTDRNTLSKANKWTGQNVSVIQKT
R47861	YSARYDGGSGHMEVLRGHEFL SHPFAVTLYGGEVYWTDRNTLAKANKWTGHNVTVVQRT
SEQ ID NO: 15	-----
SEQ ID NO: 33	SAQPFDLQIYHPSRQPQAPNPCAANDGKGPCSHMCLINHNRSAACACPHLMKLSDDKKTC
gi7861733	SAQPFDLQIYHPSRQPQAPNPCAANDGKGPCSHMCLINHNRSAACACPHLMKLSDDKKTC
R47861	NTQPFDLQVYHPSRQPMAPNPCEANGGQGPCSHLCLINYNRTVSCACPHLMKLHKDNTTC
SEQ ID NO: 15	-----
SEQ ID NO: 33	YEMKKFLLYARRSEIRGVDIDNPYFNFI TAVTPDIDDVTVIDFDA SEERLYWTDIKTQT
gi7861733	YEMKKFLLYARRSEIRGVDIDNPYFNFI TAVTPDIDDVTVIDFDA SEERLYWTDIKTQT
R47861	YEFKKFLLYARQMEIRGVLDLDAPYNYII SFTVPDIDNVTVLDYDAREQRVYWSDVRTQA
SEQ ID NO: 15	-----
SEQ ID NO: 33	IKRAFINGTGLETVISRDIQSI RGLAVDWVSRNLYWISSEFDETQINVARLDGSLKTSII
gi7861733	IKRAFINGTGLETVISRDIQSI RGLAVDWVSRNLYWISSEFDETQINVARLDGSLKTSII
R47861	IKRAFINGTGVEITVVSADLPNAHGLAVDWVSRNLFWTSYDYNKKQINVARLDGSFKNAVV
SEQ ID NO: 15	-----
SEQ ID NO: 33	HGIDKPQCLAAHPVRGKLYWTDGNTINMANMDGNSKILFQNKQKEPVGLSIDYVENKLYW
gi7861733	HGIDKPQCLAAHPVRGKLYWTDGNTINMANMDGNSKILFQNKQKEPVGLSIDYVENKLYW
R47861	QGLEQPHGLVWHPLRGKLYWTDGDNISMANMDGNSRNTLLFSGQKGPVGLAIDFPESKLYW

FIG. 5F

SEQ ID NO: 15	-----
SEQ ID NO: 33	ISSNGTINRCNL DGNLEVIESMKEELTKATALTIMDKKLWWADQNLAQLGTC SKRDGR
gi7861733	ISSNGTINRCNL DGNLEVIESMKEELTKATALTIMDKKLWWADQNLAQLGTC SKRDGR
R47861	ISSGNHTINRCNL DGSGL EVIDAMRSQLGKATALAIMGDKLWWADQVSEKMGTC SKADGS
SEQ ID NO: 15	-----
SEQ ID NO: 33	NPTILRNKTS GVVHMKVYDKEAQ---QGSNSCQLNNGGCSQLCLPTSETTRTCMCTVGYY
gi7861733	NPTILRNKTS GVVHMKVYDKEAQ---QGSNSCQLNNGGCSQLCLPTSETTRTCMCTVGYY
R47861	GSVVLNRNSTTLVMHMKVYDESIQLDHKGTNPCSVNNGDCSQLCLPTSETTRSCMCTAGYS
SEQ ID NO: 15	-----
SEQ ID NO: 33	LQKNRMS CQGIESFLMYSVHEGIRGIPLEPSDKMDALMPISGTSFAVGIDFHAENDTIYW
gi7861733	LQKNRMS CQGIESFLMYSVHEGIRGIPLEPSDKMDALMPISGTSFAVGIDFHAENDTIYW
R47861	LRSGQQACEGVS FLLYSVHEGIRGIPLDPNDKSDALVPVSGTSLAVGIDFHAENDTIYW
SEQ ID NO: 15	-----
SEQ ID NO: 33	TDMGFNKISR AKRDQ TWKEDIITNGLRVEGIAVDWIAGNIYWTDHGFNLIEVARLNGSF
gi7861733	TDMGFNKISR AKRDQ TWKEDIITNGLRVEGIAVDWIAGNIYWTDHGFNLIEVARLNGSF
R47861	VDMGLSTISR AKRDQ TWREDVVTNGIGRVEGIAVDWIAGNIYWTDQGFVIEVARLNGSF
SEQ ID NO: 15	-----
SEQ ID NO: 33	RYVVISQGLDQPRSI AVHPEKGLLFWTEWGQMPICIGKARLDGSEKVVLVSMGIAWPNGIS
gi7861733	RYVVISQGLDQPRSI AVHPEKGLLFWTEWGQMPICIGKARLDGSEKVVLVSMGIAWPNGIS
R47861	RYVVISQGLDKPRAITVHPEKGYLFWTEWGQYPIERSRLDGTERRVVLNVNVSISWPNGIS

FIG. 5G

SEQ ID NO: 15	-----
SEQ ID NO: 33	IDYEENKLYWCDARTDKIERIDLETGCGNREMLVSGSNVDMFSAVFGAYIYWSDRAHANG
gi7861733	IDYEENKLYWCDARTDKIERIDLETGCGNREMLVSGSNVDMFSAVFGAYIYWSDRAHANG
R47861	VDYQDGKLYWCDARTDKIERIDLETGCGNREMLVSSNNMDMFSVSFEDFIYWSDRTHANG
SEQ ID NO: 15	-----
SEQ ID NO: 33	SVRRGHKNDAETITMRTGLGVNLKEVKIFNRVREKGTNVCARDNGGCKQLCLYRGNRR
gi7861733	SVRRGHKNDAETITMRTGLGVNLKEVKIFNRVREKGTNVCARDNGGCKQLCLYRGNRR
R47861	SIKRGSKDNATDSVPLRTGIGVQLKDIKVFNRDRQKGTNVCANGGCGQLCLYRGRGQR
SEQ ID NO: 15	-----
SEQ ID NO: 33	TCACAHGYLAEDGVTCLRHEGYLLYSGRTILKSIHLSDETNLNSPIRYPENPRYFKNVIA
gi7861733	TCACAHGYLAEDGVTCLRHEGYLLYSGRTILKSIHLSDETNLNSPIRYPENPRYFKNVIA
R47861	ACACAHGMLAEDGASCREYAGYLLYSERTILKSIHLSDERNLNAPVQPFEDPEHMKNVIA
SEQ ID NO: 15	-----
SEQ ID NO: 33	LAFDYNQRRKG--TNRIFYSDAHFGNIQLIKDNWEDRQVIVENVGSVEGLAYHRAWDTLY
gi7861733	LAFDYNQRRKG--TNRIFYSDAHFGNIQLIKDNWEDRQVIVENVGSVEGLAYHRAWDTLY
R47861	LAFDYRAGTSPGTPNRIFFSDIHFGNIQQINDDGSRRITIVENVGSVEGLAYHARGWDITLY
SEQ ID NO: 15	-----
SEQ ID NO: 33	WTSSTTSSITRHTVDQTRPGAFDREAIVITMSEDDHHPVLAIDECQNLMTNWNWNEQHPSI
gi7861733	WTSSTTSSITRHTVDQTRPGAFDREAIVITMSEDDHHPVLAIDECQNLMTNWNWNEQHPSI
R47861	WTSYTTSTITRHTVDQTRPGAFERETVITMSGDDHPRAFLVDECQNLMTNWNWNEQHPSI

FIG. 5H

FIG. 5A

SEQ ID NO: 15	-----
SEQ ID NO: 33	MRSTLTGKNAQVVVSTDILTPNGLTIDYRAEKLYFSDGSLGKIERCEYDGSQRHVIVKSG
gi7861733	MRSTLTGKNAQVVVSTDILTPNGLTIDYRAEKLYFSDGSLGKIERCEYDGSQRHVIVKSG
R47861	MRAALSGANVLTLLIEKDIRTPNGLAIDHRAEKLYFSDATLDKIERCEYDGSQSHRYVILKSE
SEQ ID NO: 15	-----
SEQ ID NO: 33	PGTFLSLAVYDNYIFWSDWGRRAILRSNKYTGDDTKILRSDIPHQPMGIIAVANDTNSCE
gi7861733	PGTFLSLAVYDNYIFWSDWGRRAILRSNKYTGDDTKILRSDIPHQPMGIIAVANDTNSCE
R47861	PVHPFGLAVYGEHIFWTDWVRRAVQRANKHVGSNMKLLRVDIPQQPMGIIAVANDTNSCE
SEQ ID NO: 15	-----
SEQ ID NO: 33	LSPCALLNGGCHDLCLLTPNGRVNCSRGDRILLERNCVTKNSSCNAYSEFECNGGECI
gi7861733	LSPCALLNGGCHDLCLLTPNGRVNCSRGDRILLERNCVTKNSSCNAYSEFECNGGECI
R47861	LSPCRINNGGCQDLCLLTHQGHVNCSRGGRILQDDLTCAVNSSCRAQDEFECANGECI
SEQ ID NO: 15	-----
SEQ ID NO: 33	DYQLTCDGIPHCCKDSDEKLLYCNRSRRCRGGFKPCYNRRCI PHGKLCDGENDCGDNSDEL
gi7861733	DYQLTCDGIPHCCKDSDEKLLYCNRSRRCRGGFKPCYNRRCI PHGKLCDGENDCGDNSDEL
R47861	NFSLTCDGVPHCKDSDEKPSYCNRRCKTFRQCSNGRCVSNMLWCNGADDCGDSDEI
SEQ ID NO: 15	-----
SEQ ID NO: 33	DCKVSTCATVEFRCADGTICIPRSARCNQIDCADASDEKNCNNTDCTHFYKLGVKTTGFI
gi7861733	DCKVSTCATVEFRCADGTICIPRSARCNQIDCADASDEKNCNNTDCTHFYKLGVKTTGFI
R47861	PCNKTAGVGEFRCDGTICIGNSSRCNQFVDCEDASDEMNCSATDCSSYFRLGVKGVLFQ

FIG. 5I

Sequence

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

RCNSTSLCVLPTWICDGSNDCGYSDELKCPVQNKHKKEENYFSCPSGRCILNTWICDGQ
RCNSTSLCVLPTWICDGSNDCGYSDELKCPVQNKHKKEENYFSCPSGRCILNTWICDGQ
PCERTSLCYAPSWVCDGANDCGDYSDERDCPGVKRPRCPLNYFACPSGRICIPMSWTCDKE

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

KDCEDGRDEFHCDSSCSWNQFACSAQKICISKHWICDGEDDCGDLDESICGAITCAAD
KDCEDGRDEFHCDSSCSWNQFACSAQKICISKHWICDGEDDCGDLDESICGAITCAAD
DDCEHGEDETHCNKFCSEAQFECQNHRCISKQWLCDGSDDCGDGSDE-AAHCEGKTCGPS

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

MFSCQGSRAVCPRHWLCDGERDCPDGSDELSTAGCAPNNTCDENAFMCHNKVCIPKQFVC
MFSCQGSRAVCPRHWLCDGERDCPDGSDELSTAGCAPNNTCDENAFMCHNKVCIPKQFVC
SFSCPGTHVCVPERWLCGDGDKCADGADESIAAGCLYNSTCDDREFMCRQCIPKHFVC

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

DHDDDCGDGSDSPQCGYRQCCTEEFSCADGRCLLNTQWQCDGDFDCPDHSDEAPLNPKC
DHDDDCGDGSDSPQCGYRQCCTEEFSCADGRCLLNTQWQCDGDFDCPDHSDEAPLNPKC
DHDRDCADGSDSPESPEYPTCGPSEFRFCANGRCLSSRQWECDEGENDCHDQSDAPKNPHC

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

KSAEQSCN-SSFFMCKNGRCIPSGGLCDNKKDDCGDGSDERNCHINECLSKKVSGCSQDCQ
KSAEQSCN-SSFFMCKNGRCIPSGGLCDNKKDDCGDGSDERNCHINECLSKKVSGCSQDCQ
TSPEHKCNASSQFLCSSSGRCVAEALLCNGQDDCGDSSDERGCHINECLSRKLSGCSQDCE

FIG. 5J

SEQ ID NO: 15	-----
SEQ ID NO: 33	DLPVSYKCKCWPFGQLKDDGKTCVDIDECSSGFFPCSQQCINTYGYKCLCTDGYEIQPDN
gi7861733	DLPVSYKCKCWPFGQLKDDGKTCVDIDECSSGFFPCSQQCINTYGYKCLCTDGYEIQPDN
R47861	DLKIGFKRCRPGFRLKDDGRTCADVDECSTTFPCSQRCINTHGSYKCLCVEGYAPRGGD
SEQ ID NO: 15	-----
SEQ ID NO: 33	PNGCKSLSDEEPFLILADHHEIRKISTDGSNYTLLKQGLNNVIAIDFDYREEFIYWIDSS
gi7861733	PNGCKSLSDEEPFLILADHHEIRKISTDGSNYTLLKQGLNNVIAIDFDYREEFIYWIDSS
R47861	PHSCKAVTDEEPFLIFANRYLRKLNLDGSNYTLLKQGLNNAVALDFDYREQMIYWTDTV
SEQ ID NO: 15	-----
SEQ ID NO: 33	RPNGSRINRMCLNGSDIKVVHNTAVPN--ALAVDWIGKNLYWSDTEKRIIEVSKLNLGLYP
gi7861733	RPNGSRINRMCLNGSDIKVVHNTAVPN--ALAVDWIGKNLYWSDTEKRIIEVSKLNLGLYP
R47861	T-QGSMIRRMHLNGSNVQVLHRTGLSNPDGLAVDWVGGNLYWCDKGRDTEIEVSKLNGAYR
SEQ ID NO: 15	-----
SEQ ID NO: 33	TILVSKRLKFPRLDLPQAGYLYWIDCCEYPHIGRVGMDGTNQSVVIETKISRPMALTI
gi7861733	TILVSKRLKFPRLDLPQAGYLYWIDCCEYPHIGRVGMDGTNQSVVIETKISRPMALTI
R47861	TVLVSSGLREPRALVVDVQNGYLYWTDWGDHSLIGRIGMDGSSRSVIVDTKITWPNGLTL
SEQ ID NO: 15	-----
SEQ ID NO: 33	DYVNRRLYWAD--ENHIEFSNMDGSHRHKVPNQDIPGVIALTLFEDIYWTDGKTKSLSR
gi7861733	DYVNRRLYWAD--ENHIEFSNMDGSHRHKVPNQDIPGVIALTLFEDIYWTDGKTKSLSR
R47861	DYVTERIYWADAREDIIEFASLDGSNRHVLSQDIPHIFALTFLFEDYVYWTDWETKSINR

FIG. 5K

SEQ ID NO: 15	-----
SEQ ID NO: 33	AHKTSGADRLSLIYSWHAITDIQVYHSYRQPDVSKHLCMINNGGCSHLCLLAPGKTHTCA
gi7861733	AHKTSGADRLSLIYSWHAITDIQVYHSYRQPDVSKHLCMINNGGCSHLCLLAPGKTHTCA
R47861	AHKTGTGNTKTLII STLHRPMDLHV FHALRQPDV PNHPCVKVNNNGGCSNLCLLSPGGGHHKCA
SEQ ID NO: 15	-----
SEQ ID NO: 33	CPTNFYLAADNRTCLSNCTASQFRCKTDKCI PFWWKCDTVDDCGDGSDEPDCCPEFRCCQP
gi7861733	CPTNFYLAADNRTCLSNCTASQFRCKTDKCI PFWWKCDTVDDCGDGSDEPDCCPEFRCCQP
R47861	CPTNFYLGSDGRTCVSNCTASQFVCKNDKCI PFWWKCDTEDDCGDHSDDEPPDCPEFKCRP
SEQ ID NO: 15	-----
SEQ ID NO: 33	GRFQCGTGLCALPAFICDGENDCGDNSELDNCDTHVCLSGQFKCTKNQKCI PVNLRNCGQ
gi7861733	GRFQCGTGLCALPAFICDGENDCGDNSELDNCDTHVCLSGQFKCTKNQKCI PVNLRNCGQ
R47861	GQFQCSTGICTNPAFICDGDNDQCQDNSEANCDIHVCLPSQFKCTNTNRCIPGIFRCNGQ
SEQ ID NO: 15	-----
SEQ ID NO: 33	DDCGDEEDERDCPENSCSPDYFQCKTTKHCISKLWVCDEDPDCADASDE-ANCDKKTCGP
gi7861733	DDCGDEEDERDCPENSCSPDYFQCKTTKHCISKLWVCDEDPDCADASDE-ANCDKKTCGP
R47861	DNCGDGEDERDCPEVTCAPNQFQCSITTKRCIPRVWVCDRDND CVDGSDDEPANC TQMTTCGV
SEQ ID NO: 15	-----
SEQ ID NO: 33	HEFQCKNNN-CIPDHWRCDSQND CSDNSDEENCKPQTCTLKDFLCANGDCVSSRFWCDGD
gi7861733	HEFQCKNNN-CIPDHWRCDSQND CSDNSDEENCKPQTCTLKDFLCANGDCVSSRFWCDGD
R47861	DEFRCKDSGRCIPARWKCDGEDDCGDGSDPEPKEE-----CD--

FIG. 5L

Figure 5

SEQ ID NO: 15	-----
SEQ ID NO: 33	FDADGSDERNCEKQDFRCSNGQCIPAKWKCDGHEDCKYGEDEKSCPEASPTCSSR
gi7861733	FDADGSDERNCEKQDFRCSNGQCIPAKWKCDGHEDCKYGEDEKSCPEASPTCSSR
R47861	-----ERTCEPYQFRCKNNRCVPGRWQCDYDNDCGDNSDEESCTPRP--CSES
SEQ ID NO: 15	-----
SEQ ID NO: 33	EYICASDGCISASLKCNGEYDCADGSDMDCVTECKEDQFRCKNAHCIPIRWLCDGIHD
gi7861733	EYICASDGCISASLKCNGEYDCADGSDMDCVTECKEDQFRCKNAHCIPIRWLCDGIHD
R47861	EFSCANGRCIAGRWKCDGDHDCADGSDCKDCTPRCDMDQFQCK-SGHCIPLRWRCADADAD
SEQ ID NO: 15	-----
SEQ ID NO: 33	CVDGSDDEENCERGNI CRADEF LCNNSLKLFHWVCDGEDDCGDNDSDEAPDMCVKFLCPS
gi7861733	CVDGSDDEENCERGNI CRADEF LCNNSLKLFHWVCDGEDDCGDNDSDEAPDMCVKFLCPS
R47861	CMDGSDDEEACGTGVRTCPDDEFQCNNTLCKPLAWKCDGEDDCGDNSDENPEECARFVCCPP
SEQ ID NO: 15	-----
SEQ ID NO: 33	TRPHRCRNNRICLQSEQMNCNGIDECGDNSEDEHCGGKLTYPKARPCCKDEFACSNKKCIPM
gi7861733	TRPHRCRNNRICLQSEQMNCNGIDECGDNSEDEHCGGKLTYPKARPCCKDEFACSNKKCIPM
R47861	NRPFRCKNDRVCLWIGRQCDGTDNCGDGTDEEDCEPPTAHTTHCKDKKEFLCRNQRCCLSS
SEQ ID NO: 15	-----
SEQ ID NO: 33	DLQCDRLDDCGDGSDEQGCRIAPTEYTCEDNVNPGDDAYCNQIKTSVFCRCCKPGFQRNM
gi7861733	DLQCDRLDDCGDGSDEQGCRIAPTEYTCEDNVNPGDDAYCNQIKTSVFCRCCKPGFQRNM
R47861	SLRCNMFDDCGDGSDEEDCSIDPKLTSCATNASICGDEARCVRTEKAAAYCACRSGFHTVP

FIG. 5M

SEQ ID NO: 15	-----
SEQ ID NO: 33	KNRQCEDLNECLVFGTCSHQINVEGSYKCVCDQNFQERNNTCIAEGSEDQVLYIANDTD
gi7861733	KNRQCEDLNECLVFGTCSHQINVEGSYKCVCDQNFQERNNTCIAEGSEDQVLYIANDTD
R47861	GQPGCQDINECLRFGTCSQLCNNTKGGHLCSCARNFMKTHNTCKAEGSEYQVLYIADDNE
SEQ ID NO: 15	-----
SEQ ID NO: 33	ILGFIYPFNYSGDHQQISHIEHNSRITGMDVYYQRDMIIWSTQFNPGGIFYKRIH-----
gi7861733	ILGFIYPFNYSGDHQQISHIEHNSRITGMDVYYQRDMIIWSTQFNPGGIFYKRIH-----
R47861	IR-SLFPGHPHSAYEQAQGDSEVRIDAMDVHVVKAGRVIW-TNWHTGTISYRSLPPAAP
SEQ ID NO: 15	-----
SEQ ID NO: 33	---GREKRQANS---LICPEFKRPRDIAVDWVAGNIYWTDHSRMHWFSYTTHWTSRLY
gi7861733	---GREKRQANS---LICPEFKRPRDIAVDWVAGNIYWTDHSRMHWFSYTTHWTSRLY
R47861	TTSNRHRRQIDRGVTHLNI SGLKMPRGIAIDWVAGNVYWTDSG-----RD
SEQ ID NO: 15	-----
SEQ ID NO: 33	SINVGQLNGPNCNTRLLTNMAGEPYAIAVNPKRGMMYWTVVGDHSHIEEAAAMDGTLLRRILV
gi7861733	SINVGQLNGPNCNTRLLTNMAGEPYAIAVNPKRGMMYWTVVGDHSHIEEAAAMDGTLLRRILV
R47861	VIEVAQMKGENRKTLLISGMIDEPHAI VVDPLRGTMYSWSDWGNHPKIEATAAMDGTLLRETIV
SEQ ID NO: 15	-----
SEQ ID NO: 33	QKNLQRPTGLAVDYFSERIYWADFELSIIGSVLYDGSNSVSVSSKQGLLHPHRIDIFED
gi7861733	QKNLQRPTGLAVDYFSERIYWADFELSIIGSVLYDGSNSVSVSSKQGLLHPHRIDIFED
R47861	QDNIQWPTGLAVDYHNERLYWADAKLSVIGSIRLNGTDPIVAADSKRGLSHPFSDIVFED

FIG. 5N

Figure 49

SEQ ID NO: 15	-----
SEQ ID NO: 33	YIYG-AGPKNGVFRVQKFGHGSVEYLALNIDTKGVLISHRYKQLDLPNPCLDLACEFLC
gi7861733	YIYG-AGPKNGVFRVQKFGHGSVEYLALNIDTKGVLISHRYKQLDLPNPCLDLACEFLC
R47861	YIYGVTYINNRFKIHKFGHSHPLVNLTTGGLSHASDVVLYHQHKQPEVTNPCDRKKKEWLC
SEQ ID NO: 15	-----
SEQ ID NO: 33	LLNPSGATCVCPEGKYLINGTCN-----DDSLDDDSCKLTCENGGRCILNEKGDRLC
gi7861733	LLNPSGATCVCPEGKYLINGTCN-----DDSLDDDSCKLTCENGGRCILNEKGDRLC
R47861	LLSPSGPVCTCPNGKRLLDNGTCVPVPSPTPPPDAPRPGTCNLQCFNGGSCFLNARRQPKC
SEQ ID NO: 15	-----
SEQ ID NO: 33	HCWPSYSGERCEVNHCSNYCQNGGTCVPSVLGRPTCSCALFTGPNCGKTVCEDFCQNGG
gi7861733	HCWPSYSGERCEVNHCSNYCQNGGTCVPSVLGRPTCSCALFTGPNCGKTVCEDFCQNGG
R47861	RCQPRYTGDKCELDQCWEHCRNGGTCAASPSGMPTCRCPTGFTGPKCTQQVCAGYCANNS
SEQ ID NO: 15	-----
SEQ ID NO: 33	TCIVTAGNQPYCHCQPEYTGDRQCQYYVCHHYCVNSECTIGDDGSLECVCPTRYEGPKCE
gi7861733	TCIVTAGNQPYCHCQPEYTGDRQCQYYVCHHYCVNSECTIGDDGSXECVCPTRYEGPKCE
R47861	TCTVNQGNQPQCRCCLPGFLGDRQCQYRQCSGYCENFGTCQMAADGSRQCRCTAYFEGSRCE
SEQ ID NO: 15	-----
SEQ ID NO: 33	VDKCVRCHGGHCIINKDSEDFCNCTNGKIASSCQLCDGYCYNNGGTCQLDPETNVPVCLC
gi7861733	VDKCVRCHGGHCIINKDSEDFCNCTNGKIASSCQLCDGYCYNNGGTCQLDPETNVPVCLC
R47861	VNKCSRCLLEGACVNVNKQSGDVTNCNCTDGRVAPSLTVCVGHCSNNGGSCCTMN-SKMMPECCQ

FIG. 50

T C E T # 9 " 9 5 5 3 3 5 0

SEQ ID NO: 15	-----
SEQ ID NO: 33	STNWSGTQCERPAPKSSKSDHISTRSAIIVPLVLLVTLITTLVIGLVLCRKRRTKTIR
gi7861733	STNWSGTQCERPAPKSSKSDHISTRSAIIVPLVLLVTLITTLVIGLVLCRKRRTKTIR
R47861	PPHMTGPRCEEHVFSQQQPGHIAS----ILIPLLLLLLLVLVAGVVFWYKRRRVQGAQGFQ
SEQ ID NO: 15	-----
SEQ ID NO: 33	RQPIINGGINVEIGNPSYNYEVDHNDHNDGGLDPGFMIDPTKARYIGGGPSAFKLPHTA
gi7861733	RQPIINGGINVEIGNPSYNYEVDHNDHNDGGLDPGFMIDPTKARYIGGGPSAFKLPHTA
R47861	HQMTNGAMNVEIGNPTYKMYEGGEPDDVGGLLDADFALDPDK-----P-----
SEQ ID NO: 15	-----
SEQ ID NO: 33	PPIYLNSDLKGPLTAGPTNYSNPVYAKLYMDGQNCNRSLSGSDERKELLPKKIEIGIRET
gi7861733	PPIYLNSDLKGPLTAGPTNYSNPVYAKLYMDGQNCNRSLSGSDERKELLPKKIEIGIRET
R47861	-----TNFTNPVYATLYMGHGSRHSLASTDEKRELLGRGPEDEIGDP
SEQ ID NO: 15	--
SEQ ID NO: 33	VA
gi7861733	VA
R47861	LA

FIG. 5P

SEQ ID NO: 13	SFGLHGVACVGTGAHLSLCSLEFYRANDTARCPGGPAVVCVPGPVYAASSGQKKQQQS
SEQ ID NO: 29	SFGLHGVACVGTGAHLSLCSLEFYRANDTARCPGGPAVVCVPGPVYAASSGQKKQQQS
A47799_aa1	SFGLHGVACVGTGAHLSLCSLEFYRANDTARCPGGPAVVCVPGPVYAASSGQKKQQQS
SEQ ID NO: 31	-----
gi3978171	SFGLHSVACVGTGAHLSLCSLEFYRANDTTRCSGPNPAVSCVLGPLYATFTGQKKQQHS
SEQ ID NO: 13	KPQGEVRVRLKGGAHPEGGRVEVLKASTWGTVCYRKWDLHAAVVCRELGFGSAREALSG
SEQ ID NO: 29	KPQGEVRVRLKGGAHPEGGRVEVLKASTWGTVCYRKWDLHAAVVCRELGFGSAREALSG
A47799_aa1	KPQGEARVRLKGGAHPEGGRVEVLKASTWGTVCYRKWDLHAAVVCRELGFGSAREALSG
SEQ ID NO: 31	-----VRLKGGAHPEGGRVEVLKASTWGTVCYRKWDLHAAVVCRELGFGSAREALSG
gi3978171	KPQGEARVRLKGGAHQEGGRVEVLKAGTWGTVCYRKWDLQAASVVCPELGFGTAREALSG

SEQ ID NO: 13	ARMQGMGAHLSEVRCSGQELSLWKCPHKNI TAEDCSHSQVIHS-----VSLQIRL
SEQ ID NO: 29	ARMQGMGAHLSEVRCSGQELSLWKCPHKNI TAEDCSHSQDAGVRCNLPTYGAETRIRL
A47799_aa1	ARMQGMGAHLSEVRCSGQELSLWKCPHKNI TAEDCSHSQDAGVRCNLPTYGAETRIRL
SEQ ID NO: 31	ARMQGMGAHLSEVRCSGQELSLWKCPHKNI TAEDCSHSQDAGVRCNLPTYGAETRIRL
gi3978171	ARMQGMGAHLSEVRCSGQEPSLWRCPSKNI TAEDCSHSQDAGVRCNLPTYGVETKIRL

SEQ ID NO: 13	SGGRSQHEGRVEVQIGGPGPLRWGLICGDDWGTLEAMVACRQLGLGYANHGLQETWYWDS
SEQ ID NO: 29	SGGRSQHEGRVEVQIGGPGPLRWGLICGDDWGTLEAMVACRQLGLGYANHGLQETWYWDS
A47799_aa1	SGGRSQHEGRVEVQIGGPGPLRWGLICGDDWGTLEAMVACRQLGLGYANHGLQETWYWDS
SEQ ID NO: 31	SGGRSQHEGRVEVQIGGPGPLRWGLICGDDWGTLEAMVACRQLGLGYANHGLQETWYWDS
gi3978171	SGGRSRYEGRVEVQIGIPGHLRWGLICGDDWGTLEAMVACRQLGLGYANHGLQETWYWDS

FIG. 6B

2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419</
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```
SEQ ID NO: 13
SEQ ID NO: 29
A47799_aal
SEQ ID NO: 31
gi3978171
```

HRIWVH-----
 HRIWVHNCIGDAFSEANRRFERYPGQTSNQII
 HRIWVHNCIGDAFSEANRRFERYPGQTSNQII
 HRIWVHNCIGDAFSEANRRFERYPGQTSNQII
 HRIWVHNCIGDAFSEANRRFERYPGQTSNQII
 HRIWVHNCIGDAFSEANRRFERYPGQTSNQIV

FIG. 6D